

WHAT IS CLAIMED IS:

1. A method for starting an internal combustion engine, the internal combustion engine having at least one cylinder, a piston moveably guided in the cylinder, a combustion chamber formed in the cylinder, a direct injection device adapted to introduce fuel directly into the combustion chamber, and a control device adapted to at least one of control and regulate the internal combustion engine, comprising:

introducing into the combustion chamber, by a plurality of successive injections of the fuel, a fuel mass required in the combustion chamber for a first mixture formation prior to a beginning of a start phase of the internal combustion engine.

2. The method of claim 1, wherein the introducing step includes the substep of introducing a first injection of the fuel mass required for the first mixture formation into the combustion chamber at least 100 ms prior to the beginning of the start phase of the internal combustion engine.

3. The method of claim 1, further comprising introducing into the combustion chamber by a plurality of successive injections a fuel mass required for a combustion in the combustion chamber during the start phase of the internal combustion engine.

4. The method of claim 1, further comprising selectively generating air turbulence to improve mixture formation by controlling at least one of a number of injections, an injection timing, time intervals between injections, and an injection duration.

5. An internal combustion engine, comprising:  
at least one cylinder;  
a piston moveably guided in the cylinder;  
a combustion chamber formed in the cylinder;

a direct injection device adapted to introduce fuel directly into the combustion chamber; and

a control device adapted to at least one of control and regulate the internal combustion engine, the control device configured to induce the direct injection device to introduce into the combustion chamber, by a plurality of successive injections of the fuel, a fuel mass required in the combustion chamber for a first mixture formation prior to a beginning of a start phase of the internal combustion engine.

6. The internal combustion engine of claim 5, wherein the control device is configured to induce the direct injection device to introduce into the combustion chamber a first injection of the fuel mass required for the first mixture formation at least 100 ms prior to the beginning of the start phase of the internal combustion engine.

7. The internal combustion engine of claim 5, wherein the control device is configured to induce the direct injection device to introduce into the combustion chamber, by a plurality of successive injections of the fuel, a fuel mass required in the combustion chamber for mixture formation during the start phase of the internal combustion engine.

8. The internal combustion engine of claim 5, wherein the control device is configured to control the direct injection device to generate an air turbulence in the combustion chamber by the injections to improve mixture formation.

9. An arrangement, comprising:

a control device adapted to at least one of control and regulate an internal combustion engine, the control device configured to induce a direct injection device to introduce into a combustion chamber, by a plurality of successive injections of fuel, a fuel mass required in the combustion

chamber for a first mixture formation prior to a beginning of a start phase of the internal combustion engine.

10. The arrangement of claim 9, wherein the control device is configured to induce the direct injection device to introduce into the combustion chamber a first injection of the fuel mass required for the first mixture formation at least 100 ms prior to the beginning of the start phase of the internal combustion engine.

11. The arrangement of claim 9, wherein the control device is configured to induce the direct injection device to introduce into the combustion chamber, by a plurality of successive injections of the fuel, a fuel mass required in the combustion chamber for a mixture formation during a start phase of the internal combustion engine.

12. The arrangement of claim 9, wherein the control device is configured to generate an air turbulence in the combustion chamber to improve a mixture formation by controlling at least one of a number of injections, an injection timing, time intervals between the injections, and an injection duration.

13. A computer program adapted to be executed on a computing unit, the computer program comprising a method including:

introducing into the combustion chamber, by a plurality of successive injections of fuel, a fuel mass required in a combustion chamber for a first mixture formation prior to a beginning of a start phase of an internal combustion engine, the internal combustion engine including at least one cylinder, a piston moveably guided in the cylinder, the combustion chamber formed in the at least one cylinder, a direct injection device adapted to introduce the fuel directly into the combustion chamber, and a control device adapted to

at least one of control and regulate the internal combustion engine.

14. The computer program of claim 13, wherein the computer program is stored on a memory element.

15. The method of claim 1, wherein the control device is adapted to at least one of control and regulate the device for direct injection.

16. The internal combustion engine of claim 5, wherein the control device is adapted to at least one of control and regulate the device for direct injection.

17. The arrangement of claim 9, wherein the control device is adapted to at least one of control and regulate the arrangement for direct injection of the internal combustion engine.

18. The computer program of claim 13, wherein the computer program is adapted to run on a microprocessor of a control device, the control device adapted to at least one of control and regulate an internal combustion engine.

19. The computer program of claim 13, wherein the computer program is stored on one of a random-access memory, a read-only memory, and a flash memory.